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PATENT
8029/84010

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Seiichi ONO Confirmation: 7519 2856
Serial No.: 10/830,095 Art Unit: 3767
Filed: April 23, 2004 Examiner: J. Fitzgerald
For: Leak detector for detecting leak of liquid injected
into blood vessel using pulse signal

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

February 7, 2008

Sir:

The following is responsive to the Office Action mailed October 9, 2007, the period for response being extended one month to February 9, 2008.

Applicant thanks the Examiner for the consideration shown the present application and acknowledges the indication that claims 2 and 3 would be allowable if rewritten in independent form. Applicant appreciates the indication of allowable subject matter but, as discussed below, maintains the pending claims are allowable in their present form.

Accordingly, reconsideration is requested of the rejections under 35 U.S.C. §103(a) of (a) claim 1 as being unpatentable over Dvorsky et al. (U.S. 7,047,058) and Condreva (U.S. 6,295,873), and (b) claims 13,

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15, and 17 as being unpatentable over Dvorsky and Condreva in view of Atkins et al. (U.S. 4,877,034).

A key feature of Applicant's presently claimed invention is the means for detecting a leak, i.e., detecting the leak of a liquid from a change in time interval between the emission and the detection for the pulse signals reflected inside the human body.

Applicant agrees that Dvorsky does not disclose sequentially emitting pulse signals at a predetermined wavelength toward a position at which a needle is inserted and detecting a leak of a liquid from the difference between the predetermined reference time interval and the measured time interval between the emission and the detection for the pulse signals. However, Applicant respectfully disagrees that it would have been obvious to one of ordinary skill in the art to modify the Dvorsky leak detector by employing the Condreva technique of measuring the transmit time of a pulsed sound wave signal to arrive at Applicant's claimed leak detector.

Condreva merely describes a sensor system for measuring the transit time of an ultrasonic wave through a liquid sample to detect the presence of non-uniform or non-conforming constituents (i.e., impurities) in the sample from the difference between the transit time through the actual sample and a predetermined reference transit time through a pulse sample. Although Condreva discloses that in the field of medicine, specific properties of bodily fluids can be monitored by

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the sensor system, Condreva neither discloses nor suggests using the sensor system for detecting a leak of a liquid injected into a blood vessel.

There is a significant difference between the Condreva detecting technique and Applicant's claimed invention. Condreva simply discloses a technique for detecting the presence of impurities in a liquid sample. In the Condreva technique, the predetermined reference transit time is the transit time of an ultrasonic wave through a pure sample, which is not the measured sample. In contrast, according to Applicant's claimed invention, the predetermined reference time interval is the time interval between the emission and the detection of pulse signals reflected inside the human body without the occurrence of a leak measured under the same conditions, and a leak of liquid is detected from its change. It is not easy for one of ordinary skill in the art to arrive at the presently claimed invention by applying the detecting Condreva technique to the Dvorsky leak detector.

In view of the foregoing, it is respectfully submitted that Applicant's claims are allowable over the proposed combinations of references. Withdrawal of the outstanding rejection and passage to issue are, therefore, respectfully requested. However, if the Examiner has any questions, he is cordially invited to telephone the undersigned in an effort to successfully conclude prosecution.

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Applicant hereby requests a one-month extension of time in which to file this reply and hereby authorizes the Commissioner to charge any required fee not otherwise authorized, including application processing, extension, and extra claims fees, to Deposit Account No. 06-1135 referencing Attorney Docket No. 8029/84010.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY



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Request for Reconsideration

10/830,095 (8029/84010)

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